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CLAIMS

1. A method for producing a hot strip (W) which strip is produced in particular from continuous casting in the shape of reheated slabs or slabs obtained directly from the casting heat, from thin slabs or cast strip, based on a steel comprising (in mass %)

C: 0.001 - 1.05 %;
Si: ≤ 1.5 %;
Mn: 0.05 - 3.5 %;
Al: ≤ 2.5 %;

as well as optionally one or several of the following constituents

- Cu, Ni, Mo with an amount of ≤ 0.8 %;
- N, Ti, Nb, V, Zn, B with an amount of ≤ 0.5 %;
- P with an amount of ≤ 0.09 %;
- Cr with an amount of ≤ 1.5 %; and / or
- S with an amount of ≤ 0.02 %;

and

the remainder being iron as well as the usual accompanying elements,

with the steel also optionally having been treated in the liquid phase with Ca or Ca carrier alloys,

involving the following steps:

- continuous finish rolling of the hot strip (W);

- continuous cooling of the hot strip (W) in at least two subsequent cooling phases (t_{CK}, t_{LK}) of accelerated cooling, to a final temperature;

- with the first cooling phase (t_{CK}) of accelerated cooling starting at the latest three seconds after the last pass of finish rolling; and

- with the hot strip (W) during the first cooling phase (t_{CK}) of accelerated cooling being cooled at a cooling rate of at least 250 °C/s.

2. A method according to claim 1, characterised in that the steel comprises 0.005 to 0.4 mass % of silicon.

3. A method according to claim 1, characterised in that

- the steel comprises (in mass %)

C:	≤ 0.07 %;
Si:	≤ 0.2 %;
Mn:	≤ 0.6 %;
Al:	≤ 0.08 %;

- in that the hot strip (W) during finish rolling is rolled in the austenitic area;

- in that the hot strip (W) in the first cooling phase (t_{CK}) of accelerated cooling starting at a temperature above 850 °C is cooled to a temperature of 680 to 750 °C;

- in that the hot strip (W) in the second cooling phase (t_{LK}) of accelerated cooling is cooled to a temperature of less than 600 °C; and

- in that the hot strip (W) is subsequently coiled.

4. A method according to claim 1, characterised in that the steel (in mass %) comprises

C:	0.04 - 0.09 %;
Si:	≤ 0.2 %;
Mn:	0.5 - 2.0 %;
P:	0.02 - 0.09 %;
Cr:	≤ 0.9 %;

- in that the hot strip (W) after finish rolling in the first cooling phase (t_{CK}) of accelerated cooling starting from a temperature above 800 °C, is cooled to a temperature of 650 to 730 °C;

- in that in the second cooling phase (t_{LK}) of accelerated cooling, the hot strip (W) is cooled to less than 500 °C; and

- in that the hot strip (W) is subsequently coiled.

5. A method according to one of claims 1, characterised in that the steel comprises (in mass %)

C:	0.25 - 1.05 %;
Si:	≤ 0.25 %;
Mn:	≤ 0.6 %;

- in that the hot strip (W) after finish rolling in the first cooling phase (t_{CK}) of accelerated cooling starting from a temperature above 800 °C, is cooled to a temperature of between 530 and 620 °C;

- in that the hot strip (W) in the second cooling phase (t_{LK}) of accelerated cooling is cooled to a temperature of less than 500 °C; and

- in that the hot strip (W) is subsequently coiled.

6. A method according to claim 1, characterised in that the steel comprises (in mass %)

C: 0.12 - 0.3 %;
Mn: 1.2 - 3.5 %;
Al: 1.1 - 2.2 %;

- in that the hot strip (W) after finish rolling in the first cooling phase (t_{CK}) of accelerated cooling starting from a temperature between the Ar_3 temperature and a temperature of Ar_3 + 150 °C, is cooled to a temperature which is up to 50 °C below the Ar_3 temperature;

- in that the hot strip (W) in the second cooling phase (t_{LK}) of accelerated cooling is cooled to 350 to 550 °C; and

- in that the hot strip (W) is subsequently coiled.

7. A method according to claim 1, characterised in that the steel comprises (in mass %)

C: 0.04 - 0.09 %;
Si: 0.5 - 1.5 %;
Mn: 0.5 - 2.0 %;
Al: 0.4 - 2.5 %;
P: ≤ 0.09 %;
Cr: ≤ 0.9 %;

- in that the hot strip (W) after finish rolling in the first cooling phase (t_{CK}) of accelerated cooling starting from a temperature above 800 °C, is cooled to a temperature of 650 to 730 °C;

- in that the hot strip (W) in the second cooling phase (t_{LK}) of accelerated cooling is cooled to less than 500 °C; and

- in that the hot strip (W) is subsequently coiled.

8. A method according to claim 1, characterised in that the steel comprises (in mass %)

C: 0.07 - 0.22 %;
Si: 0.1 - 0.45 %;
Mn: 0.2 - 1.5 %;

- in that the hot strip (W) after finish rolling in the first cooling phase (t_{CK}) of accelerated cooling starting from a temperature above 800 °C, is cooled to a temperature of 650 to 730 °C;

- in that the hot strip (W) in the second cooling phase (t_{LK}) of accelerated cooling is cooled to less than 500 °C; and

- in that the hot strip (W) is subsequently coiled.

9. A method according to claim 1, characterised in that the steel comprises (in mass %)

C: 0.07 - 0.22 %;
Si: 0.1 - 0.45 %;
Mn: 0.2 - 1.5 %;

- in that the hot strip (W) after finish rolling in the first cooling phase (t_{CK}) of accelerated cooling starting from a temperature above 800 °C, is cooled to a temperature of 580 to 650 °C;

- in that the hot strip (W) in the second cooling phase (t_{LK}) of accelerated cooling is cooled to less than 500 °C; and

- in that the hot strip (W) is subsequently coiled.

10. A method according to one of the preceding claims, characterised in that between the first cooling phase (t_{CK}) of accelerated cooling and the second cooling phase (t_{LK}) of accelerated cooling the hot strip (W) passes through an intermediate cooling phase (t_{PAUSE}) during which the hot strip (W) is subjected to cooling by exposure to air.

11. A method according to claim 10, characterised in that the intermediate cooling phase (t_{PAUSE}) lasts for at least one second.

12. A method according to one of the preceding claims, characterised in that the first cooling phase (t_{CK})

of accelerated cooling starts at the latest two seconds after the last pass of finish rolling.

13. A method according to one of the preceding claims, characterised in that at least one of the passes during finish rolling is carried out in the austenitic range below a temperature of Ar_3 + 80 °C, and in that an overall pass reduction during finish rolling exceeding 30 % is achieved.

14. A method according to one of the preceding claims, characterised in that in the second cooling phase (t_{LK}) of accelerated cooling the hot strip (W) is cooled at a cooling rate of at least 30 °C/s.